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Abstract

Relations between maternal mind-mindedness (appropriate and non-attuned mind-related comments), children's age-2 perspective-taking abilities, and attachment security at 44 ( $n=165$ ) and 51 ( $n=128$ ) months were investigated. Non-attuned comments predicted insecure preschool attachment, via insecure 15-month attachment security (44-month attachment) and poorer age-2 perspective-taking abilities (51-month attachment). With regard to attachment stability, higher perspective-taking abilities distinguished the stable secure groups from (a) the stable insecure groups, and (b) children who changed from secure to insecure (at trend level). These effects were independent of child gender, stressful life events, and socioeconomic status. We discuss how these findings shed further light on our understanding of stability and change in attachment security from infancy to the preschool years.

## Mother–Child Attachment From Infancy to the Preschool Years: Predicting Security and Stability

Markers of caregiver–child attachment security and insecurity undergo considerable change over the first 5 years. Assessment of infant attachment relies on proximity-seeking behaviors (e.g., approaching) and indices of comfort (e.g., resuming play) to assign one of the four strange situation attachment categories: secure, insecure-avoidant, insecure-resistant (Ainsworth, Blehar, Waters, & Wall, 1978), and insecure-disorganized (Main & Solomon, 1986, 1990). By the end of the second year, with the growth of children’s language skills and cognitive abilities, security is defined in terms of the extent to which children communicate their own views and take their caregivers’ perspectives into account, enabling them to participate actively in negotiations to achieve common goals (Cassidy, Marvin, and the MacArthur Attachment group, 1992). The change in operationalization of attachment security and insecurity in the preschool years marks the shift in the attachment relationship to a goal-corrected partnership (Bowlby, 1969/1982). The study reported here explored the developmental pathways to preschool attachment security. Our main aim was to investigate (a) whether caregiver *mind-mindedness* (Meins, 1997) predicted preschool attachment security, and (b) the role played by children’s early perspective-taking abilities in the shift to the goal-directed partnership.

### **The Shift to the Goal-Corrected Partnership**

Differences in attachment as a goal-corrected partnership can be understood in terms of the extent to which the child can appreciate how internal states govern people’s behavior. Children who are secure as preschoolers are uniquely able to take both their own desires and needs and those of the caregiver into account, appearing able simultaneously to represent different people’s perspectives within the attachment relationship. Cassidy et al.’s (1992) coding criteria encapsulate this idea. Secure preschoolers express dissatisfaction with separation more openly than their insecure peers, but also more readily accept parental explanations for the separation. In contrast, insecure children are thought to “miscue” the caregiver and modulate their feelings according to their expectation of

caregiver's reaction (Hoffman, Marvin, Cooper, & Powell, 2006). While a substantial minority of children remain behaviorally disorganized and continue to exhibit anomalous behaviors in relation to the parent in the preschool years (Moss, Cyr, & Dubois-Comtois, 2004; Moss, Cyr, Bureau, Tarabulsky, & Dubois-Comtois, 2005), the majority of disorganized preschoolers attempt to control the caregiver, acting either in a caregiving (i.e., children being overly cheerful and attentive to the parent) or punitive (i.e., children being humiliating and hostile) fashion (Moss et al., 2011). Children in the insecure categories are therefore united by their inability to be open about their feelings and appreciate the caregiver's point of view. The most relevant distinction in this type of perspective-taking thus appears to be at the level of dichotomous secure–insecure attachment rather than among the four separate attachment categories.

Children's early mentalizing abilities, and factors known to predict them, are therefore likely to play a central role in predicting dichotomous preschool attachment security. Of special interest here are two such factors: maternal mind-mindedness and children's early perspective-taking abilities. Mind-mindedness indexes the caregiver's tendency to treat the young child as an individual with a mind of their own, and is assessed in the first year of life in terms of the caregiver's tendency to comment appropriately on, and not misread, the infant's thoughts and feelings. Misrepresentations of the infant's internal state (non-attuned mind-related comments) often arise due to the mother projecting her own thoughts or feelings or imposing her own agenda on the infant; greater mind-mindedness is indexed by high levels of appropriate mind-related comments and low levels of non-attuned mind-related comments (Meins, Fernyhough, Fradley, & Tuckey, 2001; Meins et al., 2012). A number of studies have already shown that mothers' appropriate mind-related comments in the first year of life are positively associated with children's mentalizing abilities in the preschool years (Laranjo, Bernier, Meins, & Carlson, 2014; Meins, Fernyhough, Arnott, Leekam, & de Rosnay, 2013; Meins et al., 2002). Meins et al. (2002) argued that mind-mindedness facilitates children's understanding of the connection between internal states and behavior, highlighting how these

internal states are interpreted from another person's perspective. This argument was proposed in the context of a link between mind-mindedness and children's later mentalizing abilities, but these abilities facilitated by mind-mindedness will also be important in establishing the attachment relationship as a goal-corrected partnership. Moreover, several studies have reported predictive links between mind-mindedness and attachment security in infancy (Arnott & Meins, 2007; Lundy, 2003; Meins et al., 2001, 2012). In Meins et al.'s (2012) study, appropriate mind-related comments predicted later secure attachment, whereas non-attuned mind-related comments were associated with insecure attachment.

These associations give reason to hypothesize that the mind-mindedness indices will similarly predict preschool attachment security. The present study explored this issue for the first time. The fact that mind-minded mothers are likely to be more accepting of the greater child autonomy associated with the shift in the relationship to a goal-corrected partnership gives further reason to propose a link between mind-mindedness and preschool attachment. In order to be mind-minded, the mother must be attuned to the child's current needs and desires, and therefore must adapt as the child develops. We therefore predicted that more mind-minded mothers will be better able to deal with the changes in the relationship, and that mind-mindedness would be higher in preschool attachment relationships that were secure compared with those that were insecure. Given that non-attuned mind-related comments index the mother's imposition of her own feelings or agenda on the child, it may be that these comments will distinguish between secure and insecure preschool attachment more strongly than appropriate mind-related comments. The present study thus investigated whether mind-mindedness in the first year predicted attachment security at ages 44 and 51 months.

As discussed above, children's early perspective-taking skills are also likely to differentiate between secure and insecure preschool attachment because secure attachment as a goal-corrected partnership involves the child recognizing that the caregiver's goals will sometimes make separation

necessary. While attachment is a relational construct (Sroufe & Waters, 1977), this does not preclude characteristics of the individuals involved in the relationship predicting infant–caregiver attachment security. Infant–mother attachment security is known to be predicted by maternal characteristics such sensitivity (e.g., Ainsworth et al., 1971), and given the way in which the goal-corrected partnership is defined, it is not unreasonable to suggest that child characteristics—particularly those associated with recognizing and responding to others’ perspectives—will predict preschool attachment.

The present study explored this possibility by investigating how children’s perspective-taking at age 2 predicted preschool attachment security. We chose to assess perspective-taking using a social symbolic play task since this type of activity appeared best suited to tapping into young children’s ability not only to recognize another person’s perspective, but to respond to it. Children’s early ability to incorporate another person’s perspective into their symbolic play is a marker of their nascent metarepresentation and social cognition. Moreover, collaborative symbolic play—unlike solo symbolic play—predicts children’s later theory of mind abilities (Astington & Jenkins, 1995; Youngblade & Dunn, 1995). We hypothesized that children’s tendency to respond to another person’s perspective within the context of symbolic play at age 2 would predict secure preschool attachment.

The present study also explored whether mind-mindedness and children’s perspective-taking abilities made independent contributions to preschool attachment security. Meins et al.’s (2013) finding that non-attuned mind-related comments were negatively related to children’s later perspective-taking abilities in the context of symbolic play gives reason to suggest that children’s perspective-taking abilities may mediate the relation between mind-mindedness and preschool attachment. We therefore investigated whether mind-mindedness predicted dichotomous preschool attachment independently or via the influence of children’s perspective-taking. Given that previous research has identified a link between secure attachment and children’s later symbolic play (e.g.,

Belsky, Garduque, & Hrncir, 1984; Meins & Russell, 1997), we also investigated whether associations between preschool attachment, mind-mindedness, and children's perspective-taking were independent of infant–mother attachment security.

Finally, we also included a measure of maternal sensitivity in the first year of life to investigate whether any relations between mind-mindedness and preschool attachment security were specific to mothers' attunement to their infants' internal states and independent of mothers' general sensitive responsivity. Although no study has identified a link between early sensitivity and preschool attachment, data from the NICHD Early Child Care Research Network (2001) show that secure attachment at 36 months was associated with an increase in maternal sensitivity between 6 and 36 months (McElwain, Cox, Burchinal, & Macfie, 2003; Mills-Koonce, Gariepy, Sutton, & Cox, 2008). It may be that sensitivity, rather than mind-mindedness, is the aspect of infant–mother interaction that predicts attachment as a goal-corrected partnership.

### **Stability in Attachment Security**

As well as investigating predictors of preschool attachment, we explored factors relating to stability and change in attachment security from infancy to the preschool years. Previous research presents a highly variable picture regarding stability. In order to compare levels of stability in previous studies, kappa values can be calculated to assess the degree of concordance in attachment security at two points. A kappa value between .20 and .40 represents fair stability, a value between .40 and .60 represents moderate stability, and a value above .60 substantial stability (Sim & Wright, 2005). Some studies have reported moderate stability from infancy to the preschool years, with kappas ranging from .41 to .49 (Fagot & Pears, 1996; Howes & Hamilton, 1992), whereas others have reported no stability over this period (Bar-Haim, Sutton, Fox, & Marvin, 2000, kappa = .01; NICHD Early Child Care Research Network, 2001, kappa = .06). The observed variability in attachment security aligns with Bowlby's (1980) argument that patterns of attachment will be relatively plastic within the first five years of life.

Between 12 and 18 months of age, change from secure to insecure attachment is known to be associated with higher levels of stressful life events, arguably due to these events having a negative impact on mothers' interactions with their infants (Vaughn, Egeland, Sroufe, & Waters, 1979). Over the longer term, the NICHD Early Child Care Research Network (2001) reported that a change from secure to insecure attachment was associated with lower maternal sensitivity across the first three years of life and starting 10 or more hours of childcare between 15 and 36 months. In addition, girls were found to be more likely to change from a secure to an insecure classification compared with boys. Greater maternal sensitivity across the child's first three years was the sole predictor of change from insecure to secure attachment over this period of time. However, this study did not assess life events between the two attachment assessments, so it is not known whether the observed relations are independent of stressful life events.

Surprisingly, research has not explored how the important changes that occur in children's development between infancy and the preschool years relate to stability or change in attachment security. As well as investigating links between children's perspective-taking and preschool attachment security, the present study was the first to investigate whether these abilities predicted change in attachment security from infancy to the preschool years. Being better able to represent and respond to others' perspectives in the early preschool years may enable children to forge or maintain a secure attachment relationship as it shifts to the goal-corrected partnership. On this account, poorer perspective-taking abilities would distinguish children whose attachment remained insecure from those either with stable secure attachment or whose attachment changed from insecure to secure. We expected perspective-taking abilities to be highest in the stable secure group and lowest in the stable insecure group. The present study also assessed stressful life events in the preschool years to investigate how they related to instability in attachment security. On the basis of previous findings, children whose attachment changed from secure to insecure were expected to have experienced more stressful life events and be more likely to be girls than their peers who stayed secure.



Finally, we assessed attachment at two points in the preschool years and were thus able to investigate stability in attachment later in development. This issue has received surprisingly little research attention, with only one study exploring longitudinal relations between attachment security at two points in the preschool years. Moss et al. (2005) assessed attachment security at 3 and 5 years using Cassidy et al.'s (1992) procedure and reported moderate stability in four-way (secure, avoidant, resistant, disorganized) and dichotomous (secure or insecure) classifications (kappas of .47 and .53 respectively). The present study thus contributed new data to the issue of longitudinal stability in attachment relationships.

In summary, the present study investigated how preschool attachment security related to maternal mind-mindedness and sensitivity in the first year of life and to children's perspective-taking abilities at age 2. We expected that early mind-mindedness and sensitivity would be highest in dyads who were classified as securely attached in the preschool years. We also predicted that secure preschool attachment would be positively related to children's age-2 perspective-taking abilities, and investigated whether perspective-taking mediated the relation between early mind-mindedness and preschool attachment. The potential mediational roles of infant attachment security were also explored. With regard to instability from infancy to the preschool years, a shift from secure to insecure attachment was expected to relate to higher levels of stressful life events and being a girl, whereas higher age-2 perspective-taking abilities were hypothesized to relate to change from insecure to secure attachment. Stability of attachment security from infancy to the preschool years and at two time points within the preschool years was explored.

## **Method**

### **Participants**

Participants were 206 mothers and children (108 girls) living in North East England who were recruited when children were 8 months of age. Recruitment was via local healthcare professionals and mother-and-baby groups. The majority of the children were White (98%), 42%

were first-born, and families varied widely in SES as assessed using the Hollingshead scale (Hollingshead, 1975), with scores ranging from 11 to 66. Around half ( $n = 90$ ) of the families were classified as low SES (parents with no post-16 education and unemployed or in menial or manual employment). Ethical approval was obtained from University and local health authority committees, and participants provided informed consent at all stages of the study.

At Phase 1, children were aged 8 months ( $N=206$ ,  $M = 8.52$ ,  $SD = 0.48$ , range 7.0–10.2), at Phase 2, children were 15 months ( $N=206$ ,  $M = 15.50$ ,  $SD = 0.60$ , range 13.7–17.3), at Phase 3, children were 26 months ( $N=206$ ,  $M=26.04$ ,  $SD=0.86$ , range 24.1–28.9), at Phase 4, children were 44 months ( $n=170$ ,  $M = 44.06$ ,  $SD = 0.83$ , range 42–46), and at Phase 5, children were 51 months ( $n=161$ ,  $M = 51.53$ ,  $SD = 0.85$ , range 49–53). Participants who were maintained in the study at Phase 5 did not differ from those who dropped out with respect to appropriate mind-related comments,  $t(203) = 0.85$ ,  $p = .396$ , non-attuned mind-related comments,  $t(203) = 0.41$ ,  $p = .684$ , dichotomous (secure or insecure) 15-month attachment,  $\chi^2(1) = 0.64$ ,  $p = .423$ , four-way (secure, avoidant, resistant, disorganized) 15-month attachment,  $\chi^2(3) = 1.20$ ,  $p = .752$ , and age-2 perspectival symbolic play,  $t(193) = 1.15$ ,  $p = .251$ . However, those who remained in the study had higher scores for sensitivity,  $t(203) = 3.38$ ,  $p = .001$ , and SES,  $t(204) = 3.38$ ,  $p = .011$ , than their counterparts who failed to complete the study. Nevertheless, the sample remained socially diverse at Phase 5, with Hollingshead Index scores ranging between 14 and 66, and 49 families from low SES backgrounds.

## Materials and Methods

**Mind-Mindedness.** At age 8 months, mind-mindedness was assessed from a 20-minute infant–mother free play session in the University’s developmental laboratories. Mothers were instructed to play with their infants as they would if they had spare time together at home, and all speech during the session was later transcribed verbatim into individual comments. Comments were defined as words, phrases, or sentences that could be distinguished on the basis of a semantic or temporal (2 second) discontinuity. The whole session was viewed in conjunction with the transcript,

and each mind-related comment (a reference to the infant's internal state) was coded as appropriate or non-attuned (Meins & Fernyhough, 2015; Meins et al., 2001, 2012). Appropriate mind-related comments are those which (a) accurately reflect the current infant's internal state, (b) link the infant's current internal state with similar events in the past or future, (c) suggest new activities that the infant would like or want if there was a lull in the interaction, or (d) voice what the infant would say if he or she could talk. In contrast, non-attuned mind-related comments attribute an internal state that appears at odds with the infant's current behavior.

Mind-mindedness was assessed by a trained researcher who was blind to all other data, and a randomly selected 25% was coded by a second blind researcher. There was perfect agreement on classifying comments as mind-related, and agreement for dichotomously coding mind-related comments as appropriate or non-attuned was  $\kappa = .70$ . Mothers received scores for appropriate and non-attuned mind-related comments as a proportion of the total number of comments made during the interaction. High scores for appropriate mind-related comments and low scores for non-attuned mind-related comments indicate high levels of mind-mindedness.

**Maternal Sensitivity.** The 8-month 20-minute free play observations were also coded for maternal sensitivity using Ainsworth, Bell, and Stayton's (1974) 9-point scale, with higher scores indicating higher sensitivity. Sensitivity was coded by a trained researcher who was blind to all other measures and to the study's hypotheses. A second trained, blind researcher coded a randomly selected 25% of the sessions. Neither researcher was involved in coding mind-mindedness. Inter-rater reliability (intra-class correlation) was .83.

**Attachment Security.** At age 15 months, infant-mother attachment security was assessed using the strange situation procedure, with infants being classified into one of four categories: secure, insecure-avoidant, insecure-resistant, insecure-disorganized (Ainsworth et al., 1978; Main & Solomon, 1986, 1990). A trained and reliable researcher who was blind to all other measures coded the strange situations, with a second blind, reliable researcher coding a randomly selected 25%.

Inter-rater reliability using the four-way classification system was  $\kappa = 0.82$ , and  $\kappa = 0.86$  for the dichotomous secure or insecure categories; a consensus was reached on all disagreements.

At age 44 months, child–mother attachment security was assessed using the adapted strange situation procedure (Cassidy et al., 1992). With this system, preschoolers are classified as secure, avoidant, ambivalent, controlling-caregiving, controlling-punitive, controlling-mixed, and behaviorally-disorganized. In the current study, and in accordance with many studies utilizing this coding system (see Moss et al., 2005), controlling and behaviourally-disorganized categories are combined to form the disorganized/controlling classification.

At age 51 months, children completed a battery of tasks with an experimenter while their mothers were in a separate room completing questionnaire and interview measures (these data are not reported here). Separations lasted for at least 45 minutes and child–mother attachment was assessed from the reunion at the end of this separation using the coding system developed by Cassidy et al. (1992). Dyads were classified into the categories described above for age 44 months.

A trained and reliable researcher who was blind to all other measures coded the preschool strange situations, with a second blind, reliable researcher coding a randomly selected 27%. Inter-rater reliability using the four-way classification system was  $\kappa = 0.77$  (44 months) and  $\kappa = 0.72$  (51 months). For the dichotomous secure or insecure categories,  $\kappa = 0.83$  (44 months) and  $\kappa = 0.70$  (51 months). All disagreements were settled by reviewing the observations until a consensus was reached.

**Perspectival Symbolic Play.** At age 26 months, children’s ability to respond to another person’s perspective within symbolic play was assessed using two items from the Test of Pretend Play (ToPP; Lewis & Boucher, 1997) and a structured task involving junk objects (Lewis & Boucher, 1988; Meins & Russell, 1997). In both tasks, the experimenter gives the child suggestions for symbolic play, and the tasks are coded in terms of the extent to which the child acts on the suggestion and incorporates it into their symbolic play. The ToPP items were suggesting that (a) the

teddy had a drink (in the absence of any drinking props), and (b) teddy was a bird (property substitution). The child received 1 point if they demonstrated teddy taking a drink from an imaginary cup or if they demonstrated teddy pretending to fly or engaging in other bird-like actions. Children could receive further points if they showed other examples of either absent object use or property substitution at any time. Children received a total frequency score for the number of symbolic acts.

In the second task, children were presented with a sequence of six toy–junk object pairs (e.g., a car and a cardboard inner tube,) and were asked, “What can you do with these?” (elicited play condition). After the child had finished enacting a sequence of play, or if the child failed to engage in play, the experimenter suggested a specific play sequence (instructed condition). For example, for the car–inner tube pair, the experimenter said, “Can you show me how the car goes through the tunnel?” The experimenter only gave open-ended suggestions and did not explicitly instruct the child to use the junk materials in specific ways. For each toy–object pair, children received a score between 0 and 4. Total potential scores ranged from 0 to 24; higher scores indicated a greater tendency for the child to respond to the experimenter’s suggestion and perspective. All observations were scored by a researcher who was blind to all other measures and to the hypotheses of the study, with a randomly-selected 25% being coded by a second blind researcher. Inter-rater reliability (intra-class correlation) for the instructed condition was .78. Scores on the two symbolic play tasks were robustly positively correlated,  $r(194) = .43, p < .001$ ; scores for both tasks were summed to give a composite score.

**Stressful Life Events.** Mothers reported on experiences of a range of stressful life events when children were aged 26 and 44 months of age. Mothers provided information on (a) whether the child’s father was living at home, (b) whether the child’s mother had a new partner, (c) whether there had been any deaths of relatives or close friends, (d) whether the child had experienced any significant or major illness, (e) whether anyone in the child’s family had experienced any significant or major illness, and (f) any other significant or major life events (birth of sibling, moving house,

maternal mental illness, change in parental employment). One point was scored for each stressful life event at both time-points, giving a score indicating the total number of stressful life events experienced up to age 44 months.

## Results

### Descriptive Statistics and Preliminary Analyses

At age 8 months, mind-mindedness and sensitivity data were unavailable for one dyad due to a technical recording difficulty. Two strange situations were terminated at age 15 months because of undue distress. Of the remaining 204 children, 138 were classified as secure, 36 as insecure-avoidant, 11 as insecure-resistant, and 19 as insecure-disorganized. At age 26 months, perspectival symbolic play data were available for 197 children; nine children failed to complete the play assessment due to attention difficulties. At 44 months, five dyads did not complete the adapted strange situation procedure. The 44-month attachment classifications were as follows: 87 secure, 11 insecure-avoidant, 21 insecure-resistant, 46 disorganized/controlling (12 controlling). At 51 months, attachment security data were available for 128 dyads. Data could not be collected for all children who participated at this phase because (a) the child refused to let their mothers leave them, (b) the child refused to stay in the testing room until the mother joined them, or (c) people other than the mother and child were present at the reunion (e.g., sibling, father, grandparent). Children who completed the attachment assessment did not differ from those who did not with respect to dichotomous attachment security at 15 or 44 months ( $\chi^2$ s < .094,  $ps$  > .336) or any of the other variables ( $ts$  < 0.84,  $ps$  > .520). The 51-month attachment classifications were as follows: 75 secure, 11 insecure-avoidant, 19 insecure-resistant, 23 disorganized/controlling (11 controlling).

Child gender was unrelated to the mind-mindedness variables, maternal sensitivity, perspectival symbolic play, SES, and negative life events ( $ts$  < 1.81,  $ds$  < .24).

Table 1 shows the correlations among the continuous variables. Note that correlations among the mind-mindedness variables, maternal sensitivity, SES, and children's perspectival symbolic play were previously reported in Meins et al. (2012, 2013).

With respect to relations between infant–mother attachment security and children's age-2 perspective taking, children who had been securely attached as infants achieved marginally higher perspectival symbolic play scores than their peers who had been insecurely attached in infancy (secure  $M=26.64$ ,  $SD=8.08$ ; insecure  $M=24.41$ ,  $SD=8.06$ ),  $t(191) = 1.81$ ,  $p = .072$ ,  $d = .28$ .

Table 2 shows the contingency table for relations between strange situation classifications at 15 and 44 months. There was a fair positive association between four-way (secure, avoidant, resistant, disorganized/controlling) attachment at the two ages,  $\kappa = .27$ ,  $p < .001$ , with 56% of children receiving the same attachment classification at both ages. The residuals indicate that there was stability in all four categories. There was also a positive association between dichotomous (secure or insecure) attachment security at the two ages,  $\kappa = .34$ ,  $p < .001$ , with 68% of children receiving either a secure or insecure classification at both ages.

Table 3 shows the contingency table for relations between strange situation classifications at 15 and 51 months. There was a positive but weak association between four-way (secure, avoidant, resistant, disorganized/controlling) attachment at the two ages,  $\kappa = .13$ ,  $p < .05$ , with 50% of children receiving the same classification at both ages. The residuals indicate that stability was driven by secure-group children. There was also a positive association between dichotomous (secure or insecure) attachment security at the two ages,  $\kappa = .24$ ,  $p < .05$ , with 64% of children receiving either a secure or insecure classification at both ages.

Table 4 shows the contingency table for relations between strange situation classifications at 44 and 51 months. There was a moderate and positive association between four-way (secure, avoidant, resistant, disorganized/controlling) attachment at the two ages,  $\kappa = .44$ ,  $p < .001$ , with 66% of children receiving the same classification at both ages. The residuals indicate that there was

stability in all four categories. There was also a positive association between dichotomous (secure or insecure) attachment security at the two ages,  $\kappa = .52, p < .001$ , with 76% of children receiving either a secure or insecure classification at both ages.

### **Predictors of Dichotomous 44-Month Attachment Security**

Table 5 shows the descriptive statistics as a function of 44-month attachment security.

Predictors of dichotomous attachment were investigated using stepwise binary logistic regression, with child gender, SES, appropriate mind-related comments, non-attuned mind-related comments, and sensitivity entered at the first step, perspectival symbolic play and stressful life events added at the second step, and 15-month attachment security added at the third step. As summarized in Table 6, secure attachment was predicted by lower levels of non-attuned mind-related comments at step 2, but with all variables entered into the equation, secure attachment was predicted by being male, higher SES, fewer stress life events, and secure 15-month attachment.

The regression suggested that 15-month attachment security mediated the relation between non-attuned mind-related comments and preschool attachment security because non-attuned comments no longer predicted attachment security when 15-months attachment was added to the regression equation. Mediation was formally tested using MPlus version 7.4, the only software allowing a mediation test with dichotomous mediator and outcome variables. Confidence intervals which did not include zero were considered significant. With all variables entered, the direct effect from non-attuned mind-related comments was non-significant, coefficient = -0.02, SE = 0.02,  $p = .41$ , CI = -0.06, 0.03, the direct effect from 15-month attachment was significant, coefficient = 0.35, SE = 0.09,  $p < .01$ , CI = 0.17, 0.51, and the indirect effect of non-attuned mind-related comments via 15-month attachment was significant, coefficient = -.04, SE = .01,  $p < .01$ , CI = -.06, -.02. Thus, non-attuned mind-related comments predicted preschool insecure attachment via their association with insecure attachment at 15 months.

### **Predictors of Dichotomous 51-Month Attachment Security**



The descriptive statistics are shown in Table 5. Predictors of dichotomous attachment were investigated using stepwise binary logistic regression, with child gender, SES, appropriate mind-related comments, non-attuned mind-related comments, and sensitivity added at the first step, perspectival symbolic play and stressful life events added at the second step, and 15-month attachment security added at the third step. As summarized in Table 7, secure attachment was predicted by being a boy and lower levels of non-attuned mind-related comments at step 1, but these variables became non-significant at step 2. With all variables entered, secure attachment was significantly predicted solely by higher levels of children's perspectival symbolic play.

The regression suggested that perspectival symbolic play mediated the relation between non-attuned mind-related comments and dichotomous attachment security because non-attuned comments no longer predicted attachment security when perspectival symbolic play was added to the regression equation. Mediation was formally tested using SPSS 20.0 and PROCESS version 2.13 (Hayes, 2013). With all variables entered, the direct effect from non-attuned mind-related comments was non-significant, coefficient = -0.17, SE = 0.12,  $p = .164$ , CI = -0.40, 0.07, the direct effect from perspectival symbolic play was significant, coefficient = 0.08, SE = 0.03,  $p = .019$ , CI = 0.01, 0.14, and the indirect effect of non-attuned mind-related comments via perspectival symbolic play was significant, coefficient = -0.08, SE = 0.05, CI = -0.21, -0.01. Thus, non-attuned mind-related comments predicted insecure attachment via their negative effect on children's perspectival symbolic play.

### **Predictors of Stability in Attachment from 15 to 44 Months**

Table 8 shows the descriptive statistics for dyads where attachment (a) remained secure from 15 to 44 months, (b) changed from secure to insecure (c) changed from insecure to secure, and (d) remained insecure. Predictors of stability in attachment security were investigated using multinomial regression. Child gender, SES, perspectival symbolic play, and stressful life events were added as independent variables in a single step. The model was significant,  $\chi^2(12) = 36.04$ ,  $p < .001$ ,

accounting for 24% of the variance. As summarized in Table 9, the results largely supported our hypotheses. Children in the stable insecure group were distinguished from those in the stable secure group by lower levels of perspectival symbolic play and marginally higher levels of stressful life events. Children who changed from secure to insecure were distinguished from those in the stable secure group by being girls, having higher levels of stressful life events, and having marginally lower perspectival symbolic play scores. Gender also distinguished between the secure to insecure and stable secure groups, and marginally predicted the direction of change: girls' attachments were more likely to become insecure compared with those of boys. With respect to this gender effect, 67% of girls and 68% of boys were classified as securely attached at 15 months, and 44% of girls and 63% of boys were classified as securely attached at 44 months, indicating a decrease in secure attachment in girls over this time period. Change to secure attachment was associated with higher SES and marginally fewer stressful life events compared with change to insecure attachment.

### **Predictors of Stability in Attachment from 15 to 51 Months**

Table 8 also shows the descriptive statistics as a function of stability in attachment from 15 to 51 months. Predictors of stability in attachment security were investigated using multinomial regression, with stability in attachment security as the dependent variable and child gender, SES, perspectival symbolic play, and stressful life events added as independent variables. To account for the observed stability in attachment security from 44 to 51 months, dichotomous attachment at age 44 months was also added as an independent variable. The model was significant,  $\chi^2(15) = 67.64, p < .001$ , accounting for 49% of the variance.

Once again, the results were in line with predictions, as summarized in Table 10. Controlling for 44-month attachment security, children in the stable insecure group were distinguished from those in the stable secure group by lower levels of perspectival symbolic play and lower SES. Children who changed from secure to insecure were distinguished from those in the stable secure group by marginally lower perspectival symbolic play scores. Children whose attachments became

secure were from higher SES background compared with those in the stable secure group, and children whose attachments became insecure were from lower SES backgrounds compared with those in the stable insecure group.

### **Discussion**

The aim of the present study was to investigate predictors of preschool attachment security and stability in attachment from infancy to the preschool years. One index of mind-mindedness—non-attuned mind-related comments—predicted preschool attachment security. Non-attuned mind-related comments were associated with insecure preschool attachment at both 44 and 51 months, with this related mediated by infant attachment security at 44 months and children's age-2 perspective-taking abilities at 51 months. These findings suggest that non-attuned mind-related comments influence preschool attachment indirectly either via their role in establishing an insecure attachment relationship in the second year of life or by predicting less sophisticated perspective-taking abilities when children reach the end of infancy.

As explained in the Introduction, mind-mindedness is operationalized in terms of caregivers' use of appropriate versus non-attuned mind-related comments, with mind-mindedness being defined as high levels of appropriate comments and low levels of non-attuned comments (Meins et al., 2012). What might account for the finding of preschool attachment being specifically predicted by non-attuned mind-related comments? Appropriate mind-related comments indicate the caregiver's accuracy in labeling the infant's likely internal state, whereas non-attuned mind-related comments index the caregiver's misreading of the infant's internal states and may arise because caregivers seek to impose their own agenda on the infant rather than using the infant's behavior as a cue to their thoughts and feelings. Non-attuned mind-related comments may also result from the caregiver being unable to read the child's emotional expressions. This mismatch between the infant's internal state and the caregiver's interpretation is likely to impede the child's independence and the progression of the attachment relationship to a goal-corrected partnership.

Meins et al. (2012) reported that non-attuned and appropriate mind-related comments independently predicted infant–mother attachment security in the second year of life, but it was non-attuned comments that distinguished between the different forms of insecure attachment. It is interesting to note that Meins et al.’s study found that mothers of insecure-resistant infants demonstrated the highest levels of non-attuned mind-related comments, given that these infants show the lowest levels of independence. Moreover, Meins et al. (2013) reported that non-attuned—but not appropriate—mind-related comments predicted children’s early perspective-taking abilities, with higher levels of non-attuned comments relating to poorer perspective-taking. It is therefore not surprising that we found non-attuned comments specifically predicted preschool insecure attachment, and that early insecure attachment (for 44-month attachment) and children’s emerging perspective-taking abilities (for 51-month attachment) mediated this relation.

We hypothesized that children’s early perspective-taking abilities would be positively associated with secure attachment in the preschool years because of their role in shifting the attachment relationship to a goal-corrected partnership. Importantly, children’s perspective-taking abilities were positively associated with secure attachment at 51 months independently of children’s 15-month attachment security. This demonstrates that the relation between perspective-taking abilities and 51-month attachment is direct and cannot be explained by secure attachment in infancy predicting superior perspective-taking abilities at age 2. However, children’s early perspective-taking abilities predicted secure preschool attachment only at 51 months, with no relation with attachment at 44 months. These results thus suggest the following developmental pathways: mothers’ non-attuned comments in the first year of life predict insecure attachment at 15 months and poorer perspective-taking abilities at age 2; insecure attachment at 15 months goes on to predict insecure attachment at 44 months, and poorer perspective-taking abilities predict insecure attachment at 51 months.

One reason for observing the relation between perspective-taking and preschool attachment at the older but not younger age is that children's own perspective-taking abilities will likely become increasingly important in determining attachment security as they get older. It would be interesting to investigate in future research whether the more sophisticated mentalizing abilities associated with children's acquisition of a representational theory of mind similarly relate to preschool attachment security. Future research should also explore whether children's perspective-taking abilities relate to preschool attachment security when it is assessed using methods that focus on children's representations of attachment relationships (e.g., Bretherton, Ridgeway, & Cassidy, 1990) rather than their reunion behavior.

Turning to stability of attachment security from infancy to the preschool years, we hypothesized that better age-2 perspective-taking abilities would enable children to maintain or forge a secure attachment relationship as it shifts to the goal-corrected partnership. In line with our hypotheses, perspective-taking abilities were highest in the groups with stable secure attachment from both 15 to 44 months and 15 to 51 months, and lowest in the groups with stable insecure attachment over these two periods of time. The results of the multinomial regression analyses showed that higher perspective-taking abilities distinguished the stable secure from the stable insecure group at both 44 and 51 months. Higher perspective-taking abilities also marginally distinguished children whose attachment remained secure from those whose attachment changed to insecure at either 44 or 51 months. At the older age, higher perspective-taking abilities also marginally distinguished between children whose attachment changed to secure from those whose attachment remained insecure. These effects were independent of children's gender, stressful life events, and SES, with the effects at 51 months additionally being independent of children's 44-month attachment security.

Taken as a whole, these analyses highlight the role of children's early perspective-taking abilities as a predictor of preschool attachment security and longitudinal stability in attachment

security. The findings in relation to predictors of stability in the attachment relationship support our proposal about individual characteristics of the child determining the quality of the preschool attachment relationship. Just as maternal sensitivity (Ainsworth et al., 1971) and mind-mindedness (Meins et al., 2001, 2012) predict infant–mother attachment security, so children’s perspective-taking abilities predict preschool attachment security. Our findings suggest that the attachment relationship will only remain secure as it shifts to the goal-corrected partnership if children are able to represent and respond to another person’s perspective in the early preschool years.

As well as identifying children’s perspective-taking abilities as a predictor of stability in attachment from infancy to the preschool years, we replicated the NICHD Early Child Care Research Network (2001) finding that girls were more likely than boys to show unstable patterns of attachment and become insecure from infancy to the preschool years. This was due to a decrease between 15 and 44 months in the percentage of girls classified as securely attached, with girls declining from the expected percentage of secure attachment (around two-thirds), and boys maintaining the expected percentage. This gender-specific decline is in line with previous findings; indeed, the percentage of girls classified as securely attached at 44 months in the present study (44%) was very similar to that reported at 36 months in the NICHD study (47%). Our findings on stability in attachment security from 15 to 44 months replicated the previous association between stressful life events and change from secure to insecure over time (Vaughn et al., 1979).

The present study also adds to the extant literature on longitudinal stability in attachment security. The NICHD Early Child Care Research Network (2001) reported that 46% of children remained in the same attachment category at 15 and 36 months, with 55% showing stability in dichotomous attachment security over this period. In contrast, we found stability rates of 56% and 68% for attachment category and dichotomous attachment security respectively from 15 to 44 months. There was also notable stability over the 7-month period between 44 and 51 months, with 66% of children showing stability in attachment category (secure, insecure-avoidant, insecure-

resistant, insecure-disorganized/controlling) and 76% of children maintaining stable dichotomous (secure or insecure) attachment security. These figures are almost identical to those reported by Moss et al. (2005) for stability in attachment security between 3 and 5 years. Given the high rates of attachment stability from infancy to the preschool years in our sample, it would be interesting to investigate whether the same developmental pathways to preschool attachment security exist in samples where there is higher instability. Under these conditions, it may be that mothers' early non-attuned comments will predict insecure preschool attachment independently of infant attachment security.

### **Limitations**

The results of our study should be interpreted with reference to certain limitations. Fewer children completed the attachment assessment at 51 months (128) compared with the 15- and 44-month assessments (204 and 165), so it is important to replicate these findings in a sample where there is less attrition. Measures of sensitivity and mind-mindedness were not obtained in the preschool years, so it was not possible to investigate how these measures predicted stability in attachment security. Reanalysis of the NICHD data has shown that mothers' mean sensitivity from 6 to 36 months was unrelated to change in attachment security over this period of time, and that it was an increase in sensitivity over the first three years of life that predicted secure preschool attachment (McElwain et al., 2003; Mills-Koonce et al., 2008). Future research should investigate whether an increase in sensitivity similarly predicts stability and change in attachment over the longer term.

It is also important to investigate whether changes in mind-mindedness play a role in predicting preschool attachment security and stability in attachment. This is a more challenging task because at present there is no observation-based method for assessing mind-mindedness beyond infancy. From the preschool years, mind-mindedness is assessed on the basis of caregivers' tendency to focus on mental characteristics when given an open-ended invitation to describe the child (Meins, Fernyhough, Russell, & Clark-Carter, 1998); this measure therefore does not allow for an assessment

of appropriate versus non-attuned mind-mindedness. Given the importance of this distinction in predicting infant–mother attachment security (Meins et al., 2012), it would be useful to devise an observational procedure that would provide some measure of mind-minded attunement in the preschool years. Clearly, the internal states of preschoolers are considerably more transparent than those of preverbal infants. Mind-minded attunement in the preschool years may thus be better characterized in terms of the caregiver’s acknowledgement of and response to the child’s point of view, collaborating with the child rather than directing and instructing them. Such a measure would enable future research to investigate how change in mind-mindedness from infancy to the preschool years predicts attachment stability.

Finally, we chose to assess perspective-taking in the context of a symbolic play task rather than using early theory of mind tasks that assess nascent mentalizing abilities more directly, such as tasks measuring children’s understanding of discrepant desires (Repacholi & Gopnik, 1997), intentions, or visual perspectives (Carlson, Mandell, & Williams, 2004). Future research should investigate whether these aspects of early mentalizing abilities play a role in predicting the shift in the attachment relationship to a goal-corrected partnership.



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Table 1

*Bivariate Correlations for the Continuous Variables*

	1	2	3	4	5
1. Appropriate mind-related comments					
2. Non-attuned mind-related comments	.07				
3. Maternal sensitivity	.39***	.04			
4. Perspectival symbolic play	.10	-.24***	.21**		
5. Stressful life events	-.07	-.07	-.25**	.03	
6. Socioeconomic status	.16*	-.05	.30***	.35***	-.10

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 2

*Contingency Table for Relations between Attachment Security at 15 and 44 Months*

	Age 15 Months				
	Avoidant	Secure	Resistant	Disorganized	Total
<hr/>					
Age 44 Months					
Avoidant	5	4	0	2	11
	2.4	-2.2	-0.8	1.0	
Secure	9	72	4	2	87
	-2.8	4.5	-0.2	-3.4	
Resistant	4	11	4	1	20
	0.2	-1.2	3.4	-0.8	
D/Controlling	12	23	0	11	46
	1.6	-2.9	-1.8	3.8	
<hr/>					
Total	30	110	8	16	164

*Note:* adjusted standardized residuals are shown below frequency counts in each cell.

Table 3

*Contingency Table for Relations between Attachment Security at 15 and 51 Months*

	Age 15 Months				
	Avoidant	Secure	Resistant	Disorganized	Total
<hr/>					
Age 51 Months					
Avoidant	3	4	0	4	11
	0.8	-2.1	-0.8	2.8	
Secure	9	56	6	4	75
	-2.1	2.6	1.5	-2.4	
Resistant	7	9	1	2	19
	2.3	-1.8	0.0	-0.1	
D/Controlling	4	15	0	4	23
	-0.1	0.0	-1.3	1.1	
<hr/>					
Total	23	84	7	14	128

*Note:* adjusted standardized residuals are shown below frequency counts in each cell.



## Predicting Attachment Security and Stability

Table 4

*Contingency Table for Relations between Attachment Security at 44 and 51 Months*

	Age 44 Months				
	Avoidant	Secure	Resistant	D/Controlling	Total
<hr/>					
Age 51 Months					
Avoidant	4	2	1	4	11
	3.9	-2.5	-0.3	0.7	
Secure	3	56	5	10	74
	-1.6	5.8	-2.1	-4.1	
Resistant	2	8	6	3	19
	0.6	-1.1	2.9	-1.2	
D/Controlling	0	2	3	17	22
	-1.4	-4.6	0.3	5.8	
<hr/>					
Total	9	68	15	34	12

*Note:* adjusted standardized residuals are shown below frequency counts in each cell.

## Predicting Attachment Security and Stability

Table 5

*Mean (Standard Deviation) Scores for All Mothers and as a Function of 44-Month and 51-Month Attachment Security*

	44 months			51 months		
	Secure ( <i>n</i> = 87)	Insecure ( <i>n</i> = 78)	<i>d</i>	Secure ( <i>n</i> = 75)	Insecure ( <i>n</i> = 53)	<i>d</i>
Appropriate mind-related comments	5.53 (3.49)	5.33 (3.84)	.05	6.08 (3.55)	4.68 (3.64)*	.39
Non-attuned mind-related comments	1.21 (1.56)	2.00 (2.21)**	.46	1.43 (1.87)	1.89 (2.26)	.22
Sensitivity	6.02 (1.36)	5.44 (1.48)**	.41	6.07 (1.45)	5.68 (1.40)	.27
Perspectival symbolic play	27.77 (8.22)	24.22 (6.98)**	.48	28.43 (8.63)	23.73 (6.01)***	.64
Stressful life events	1.13 (1.20)	1.93 (1.85)**	.52	1.19 (1.42)	1.60 (1.62)	.27
SES	38.25 (12.56)	32.41 (15.00)**	.42	38.31 (12.98)	33.96 (14.95)	.31

T test significant at \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

## Predicting Attachment Security and Stability

Table 6

*Summary of Binary Logistic Regression Analysis for Variables Predicting**Secure/Insecure Attachment at 44 Months (Secure = 1, Insecure = 0)*

Variable	<i>B</i>	<i>SE B</i>	Wald	<i>p</i> level	CI
<i>Step 1</i>					
Gender (male = 0, female = 1)		-1.08	0.38	7.86	.005      0.16–0.72
SES		0.03	0.01	4.03	.045      1.00–1.06
AMRC		0.02	0.06	0.14	.708      0.88–1.09
NAMRC	-0.29	0.11	7.37	.007	0.61–0.92
Sensitivity	0.23	0.15	2.38	.123	0.94–1.68
$R^2 = .19, \chi^2(5) = 21.45, p = .001$					
<i>Step 2</i>					
Gender (male = 0, female = 1)		-1.09	0.40	7.62	.006      0.15–0.73
SES		0.02	0.02	2.67	.102      1.00–1.05
AMRC		0.02	0.06	0.09	.764      0.88–1.10
NAMRC	-0.29	0.11	6.76	.009	0.60–0.93
Sensitivity	0.13	0.16	0.67	.414	0.84–1.55
Perspectival symbolic play		0.02	0.03	0.78	.378      0.97–1.08
Stressful life events		-0.34	0.13	6.47	.011      0.55–0.93
$\Delta R^2 = .06, \Delta\chi^2(2) = 7.48, p = .024$					
<i>Step 3</i>					
Gender (male = 0, female = 1)		-1.10	0.42	6.85	.009      0.15–0.76
SES		0.04	0.02	4.74	.029      1.00–1.07
AMRC		0.09	0.06	2.07	.150      0.81–1.03
NAMRC	-0.10	0.13	0.66	.418	0.71–1.16
Sensitivity	0.28	0.17	2.62	.106	0.94–1.85
Perspectival symbolic play		0.01	0.03	0.22	.637      0.96–1.07
Stressful life events		-0.35	0.14	6.12	.012      0.54–0.93
15-month attachment		1.95	0.52	13.81	<.001      2.51–19.54
$\Delta R^2 = .11, \Delta\chi^2(1) = 15.85, p < .001$					

*Note:* AMRC = appropriate mind-related comments, NAMRC = non-attuned mind-related comments

## Predicting Attachment Security and Stability

Table 7

*Summary of Binary Logistic Regression Analysis for Variables Predicting**Secure/Insecure Attachment at 51 Months (Secure = 1, Insecure = 0)*

Variable	<i>B</i>	<i>SE B</i>	Wald	<i>p</i> level	CI	
<i>Step 1</i>						
Gender (male = 0, female = 1)		-0.88	0.45	3.90	.048	0.17–0.99
SES		0.01	0.02	0.76	.383	0.98–1.04
AMRC		0.12	0.07	3.23	.071	0.99–1.28
NAMRC	-0.23	0.11	4.21	.040	0.64–0.99	
Sensitivity	0.18	0.17	1.04	.307	0.85–1.68	
$R^2 = .16, \chi^2(5) = 14.12, p = .015$						
<i>Step 2</i>						
Gender (male = 0, female = 1)		-0.87	0.47	3.47	.063	0.17–1.05
SES		0.01	0.02	0.02	.887	0.97–1.04
AMRC		0.12	0.07	3.40	.065	0.99–1.29
NAMRC	-0.18	0.12	2.17	.141	0.67–1.06	
Sensitivity	0.10	0.19	0.28	.595	0.76–1.60	
Perspectival symbolic play		0.08	0.03	5.58	.018	1.01–1.15
Stressful life events		-0.17	0.15	1.31	.252	0.64–1.13
$\Delta R^2 = .08, \Delta\chi^2(2) = 7.30, p = .026$						
<i>Step 3</i>						
Gender (male = 0, female = 1)		-0.86	0.47	3.35	.067	0.17–1.06
SES		0.01	0.02	0.15	.703	0.97–1.04
AMRC		-0.10	0.07	1.91	.167	0.96–1.27
NAMRC	-0.12	0.13	0.77	.380	0.69–1.15	
Sensitivity	0.14	0.19	0.51	.475	0.79–1.67	
Perspectival symbolic play		0.07	0.03	4.84	.028	1.01–1.15
Stressful life events		-0.16	0.15	1.19	.276	0.64–1.14
15-month attachment		0.55	0.55	1.00	.319	0.59–5.08
$\Delta R^2 = .01, \Delta\chi^2(1) = 1.00, p = .318$						

*Note:* AMRC = appropriate mind-related comments, NAMRC = non-attuned mind-related comments

## Predicting Attachment Security and Stability

Table 8

*Mean (Standard Deviation) Scores as a Function of Stability in Attachment Security from Months to the Preschool Years*

	Perspectival symbolic play	Stressful life events	SES
<i>15 to 44 Months</i>			
Stable secure ( <i>n</i> =72)	28.29 (7.67)	1.14 (1.18)	37.26 (12.02)
Stable insecure ( <i>n</i> =39)	24.05 (6.78)	1.66 (1.88)	34.23 (16.33)
Secure to insecure ( <i>n</i> =38)	24.46 (7.35)	2.15 (1.81)	30.32 (13.58)
Insecure to secure ( <i>n</i> =15)	25.40 (10.33)	1.07 (1.34)	43.00 (14.36)
<i>15 to 51 Months</i>			
Stable secure ( <i>n</i> =56)	28.98 (8.38)	1.33 (1.40)	37.21 (12.62)
Stable insecure ( <i>n</i> =25)	22.92 (6.31)	1.83 (1.80)	37.04 (16.02)
Secure to insecure ( <i>n</i> =30)	24.50 (5.82)	1.31 (1.41)	31.23 (13.29)
Insecure to secure ( <i>n</i> =17)	27.18 (9.63)	0.82 (1.51)	42.71 (13.97)

## Predicting Attachment Security and Stability

Table 9

*Summary of Multinomial Logistic Regression Analysis for Variables Predicting**Stability in Attachment Security from 15 to 44 Months*

Variable	<i>B</i>	<i>SE B</i>	Wald	<i>p</i> level	CI
<i>Stable insecure vs. stable secure</i>					
Gender (male = 0, female = 1)	0.44	0.45	0.99	.321	0.65–3.74
SES	0.01	0.02	0.01	.905	0.97–1.04
Perspectival symbolic play	-0.08	0.03	5.80	.016	0.87–0.99
Stressful life events	0.26	0.15	3.02	.082	0.97–1.74
<i>Secure to insecure vs. stable secure</i>					
Gender (male = 0, female = 1)	1.59	0.51	9.65	.002	1.80–13.35
SES	-0.03	0.02	2.59	.107	0.94–1.01
Perspectival symbolic play	-0.08	0.04	3.71	.054	0.85–1.00
Stressful life events	0.40	0.15	6.73	.009	1.10–2.02
<i>Insecure to secure vs. stable secure</i>					
Gender (male = 0, female = 1)	0.43	0.60	0.52	.470	0.48–4.97
SES	0.04	0.02	2.89	.089	0.99–1.09
Perspectival symbolic play	-0.04	0.04	1.12	.291	0.90–1.03
Stressful life events	-0.01	0.23	0.01	.957	0.63–1.56
<i>Secure to insecure vs. stable insecure</i>					
Gender (male = 0, female = 1)	1.15	0.54	4.49	.034	1.09–9.07
SES	-0.03	0.02	2.69	.101	0.93–1.01
Perspectival symbolic play	0.04	0.04	1.26	.262	0.97–1.12
Stressful life events	0.14	0.15	0.89	.345	0.86–1.54
<i>Insecure to secure vs. stable insecure</i>					
Gender (male = 0, female = 1)	0.01	0.63	0.00	.985	0.29–3.42
SES	0.04	0.02	2.30	.130	0.99–1.09
Perspectival symbolic play	-0.01	0.05	0.01	.933	0.91–1.09
Stressful life events	-0.27	0.23	1.35	.245	0.48–1.21
<i>Insecure to secure vs. secure to insecure</i>					
Gender (male = 0, female = 1)	1.16	0.69	2.79	.095	0.08–1.22
SES	0.07	0.03	7.18	.007	1.02–1.13
Perspectival symbolic play	0.05	0.05	0.89	.344	0.87–1.05
Stressful life events	-0.42	0.24	2.99	.084	0.42–1.06

## Predicting Attachment Security and Stability

Table 10

*Summary of Multinomial Logistic Regression Analysis for Variables Predicting**Stability in Attachment Security from 15 to 51 Months*

Variable	<i>B</i>	<i>SE B</i>	Wald	<i>p</i> level	CI
<i>Stable insecure vs. stable secure</i>					
Gender (male = 0, female = 1)	0.32	0.67	0.22	.637	0.20–2.72
SES	0.05	0.03	4.53	.033	1.00–1.14
Perspectival symbolic play	-0.16	0.05	9.81	.002	0.77–0.94
Stressful life events	0.09	0.20	0.19	.664	0.62–1.36
44 month attachment	-3.90	0.86	20.41	<.001	0.01–0.11
<i>Secure to insecure vs. stable secure</i>					
Gender (male = 0, female = 1)	0.31	0.60	0.27	.604	0.42–4.46
SES	0.01	0.03	0.02	.894	0.96–1.05
Perspectival symbolic play	-0.08	0.05	3.49	.062	0.84–1.00
Stressful life events	-0.28	0.20	1.91	.167	0.51–1.12
44 month attachment	-2.92	0.69	18.12	<.001	0.01–0.21
<i>Insecure to secure vs. stable secure</i>					
Gender male = 0, female = 1)	0.33	0.61	0.28	.596	0.22–2.40
SES	0.05	0.03	4.71	.030	1.01–1.11
Perspectival symbolic play	-0.06	0.04	2.17	.140	0.87–1.02
Stressful life events	-0.50	0.27	3.37	.066	0.36–1.03
44 month attachment	-1.49	0.73	4.15	.042	0.05–0.95
<i>Secure to insecure vs. stable insecure</i>					
Gender male = 0, female = 1)	0.63	0.64	0.98	.322	0.54–6.53
SES	-0.05	0.02	4.76	.029	0.96–1.05
Perspectival symbolic play	0.08	0.05	2.46	.117	0.98–1.19
Stressful life events	-0.19	0.19	1.05	.305	0.57–1.19
44 month attachment	0.98	0.84	1.34	.246	0.51–13.92

## Predicting Attachment Security and Stability

Table 10 (cont.)

*Insecure to secure vs. stable insecure*

Gender	0.01	0.72	0.00	.991	0.24–4.10
SES	-0.01	0.03	0.01	.968	0.95–1.05
Perspectival symbolic play	0.10	0.05	3.26	.071	0.99–1.23
Stressful life events	-0.41	0.28	2.17	.141	0.38–1.15
44 month attachment	2.42	0.86	7.94	.005	2.09–60.20

*Insecure to secure vs. secure to insecure*

Gender	0.64	0.68	0.87	.351	0.14–2.02
SES	0.05	0.03	3.49	.062	1.00–1.11
Perspectival symbolic play	0.02	0.05	0.18	.672	0.93–1.13
Stressful life events	-0.22	0.29	0.58	.447	0.46–1.41
44 month attachment	1.44	0.72	3.94	.047	1.02–17.42

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